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RAMBLES IN THE CANADIAN ROCKIES

II.—BANFF

A. H. BRINKMAN

Banff and its surroundings have one great advantage—they are very accessible. To those who are not keen on camping, a town with numerous hotels, situated in the midst of fine scenery and good collecting and as yet nearly unspoiled by so-called civilization, should make a strong appeal. It is a satisfaction, after all, when returning from the day's excursion to find close at hand meals and other comforts not obtainable in camp.

While ten minutes' walk in any direction will take the botanist to good collecting grounds, perhaps the best start is made by a trip to the hot springs and thence to the observatory on Sulfur Mountain, since this furnishes a good idea of the "lay out" of the country. From the observatory typical main valleys may be seen in the Spray Valley to the east and the Sundance to the west, neither of them rising more than a thousand feet in fifteen miles. Rundle Mountain is opposite to the east, not difficult for a careful climber, being really much weather-worn and broken, though appearing from below to be a smooth, sloping, table of rock. By those wishing for the climb the watercourse that can be seen between the shoulder and the main mass should be noted carefully, since it furnishes a practicable route from the lower wooded slope to the main peak and abounds in interesting plants. From Sulfur Mountain it is possible to map out routes for a day or a two-day excursion, and to plan shorter trips in the woods along the Spray River or along its numerous mountain tributaries.

The trail from the hot springs to the observatory is good, so that there should be no difficulty in climbing to the latter. About midway up the mountain-side a short branch trail leads to a streamlet to the south, which should be carefully noted since it forms an excellent one-day excursion if followed from its source to the Spray River. There are good possibilities for collecting along the main trail also; *Clevea hyalina* grows in small patches close at hand, and *Sauteria alpina* has been found on the mountain. Once at the top and future excursions planned, it is possible, after the wonderful scenery on all sides has been fully enjoyed, to follow along the ridge north and so down the northwest slopes to the trail leading to Banff. On the bare ground are patches of *Leskea tectorum*; *Campylium Halleri*, *Grimmia anodon*, *Gymnostomum rupestre*, and *Encalypta rhabdocarpa* occur on rocks lower down; *Meesia trichodes* and *Fissidens grandifrons* are found near the upper sulfur spring and, on the north side of the river path when near-

ing the bridge, *Catoscopium nigratum*, growing among the grass. Near the stream referred to above, south of the observatory trail, *Encalypta rhabdocarpa* and *Tortula mucronifolia* grow on the wet earth of the stream bank.

Most of the above species with the addition of *Hygrohypnum alpestre* grow also along the Spray River to the south. In fact, all around the base of Sulfur Mountain in the Sundance, Bow, and Spray Valleys there are many, many mosses, of which those mentioned above represent only "pickings" from limited collections. Hepatics are very abundant, especially those of the *Lophozia* group: *LL. badensis*, *barbata*, *excisa*, *grandiretis*, *heterocolpa*, *Hornschuchiana*, *incisa*, *Kaurini*, *longiflora*, *Muelleri*, *Schultzii*, and *ventricosa*, have been gathered here, nearly always on wet or damp earth, besides *Sphenobolus exsectaeformis*, *Michauxii*, *politus*, and *scitulus*. *Calypogeia sphagnicola* associated with *Riccardia major* and *Cephalozia pleniceps* is found on the peaty stream sides, with *Calypogeia Neesiana* on decayed wood; *Pallavicinia Flotowiana* grows on the wet earth, *Arnellia fennica* in or beside the small streams, and *Scapania Bartlingii* on the ledges beside them. Really it is only by considering the small area, some four square miles, covered rather imperfectly in this account, that it is possible to gain an idea of the extensive collections that may be made here. The altitude varies from 4500 to 7000 feet, between which limits there is the greatest variety of habitats: rock bluffs, cliffs, gullies, stream beds, peat bogs, river marshes, wet open land, forest—it is a paradise for the collector.

For a trip up Rundle Mountain it is necessary to make an early start, and make certain plans beforehand. As has been mentioned, there is a practicable course up the stream bed between the shoulder and the main peak, but it is well when on Sulfur Mountain to take careful notes of the position since the trail is not very distinct. On leaving the stream bed, also, careful notes should be taken or marks made to avoid difficulty on the return. Hepatics, while not uncommon, are less frequent upon the higher slopes than further down, and for the most part duplicate those already mentioned in connection with Sulfur Mountain. The mosses, however, furnish many new forms. *Tetraplodon mnioides* grows on dung in the lower wooded slopes, *Encalypta Selwyni* in rock crevices along the stream and *E. streptocarpa* on the earth, *Andreaea nivalis* on the wet rocks, *Stereodon fastigiatus* in the stream bed and *Hygrohypnum palustre* beside it, *Orthotrichum pulchellum* amid the rocks on the mountain. The summit is easy of access once the slope has been gained, and affords especially fine views of the Bow River valley, with the higher, snow-clad peaks in the distance with their snow fields and glaciers.

Two other trips that promise well, but which I have been unable to take personally, are along Forty-mile Creek, between Stony Squaw and Norquay Mountains, and around Lake Minnewanka, to which daily trips are available from Banff with a hotel at the lake that would permit of a longer stay should conditions warrant. Indeed, the great point in favor of Banff as a center for a botanical holiday is the comparative ease with which interesting collecting grounds may be reached. And, let me say in passing, the flowering plants are as numerous and as beautiful as the bryophytes.

For a longer trip, the route up the Spray River valley past the Spray Lakes, over Mt. Assinaboine Divide, is well worth investigation. While the first day's journey is rather uninteresting from the denseness of the woods, the trip after that is a rare treat. The scenery from a camp on the north side of the Assinaboine Divide is perhaps the best within reach, especially the sunrise on the snow-fields. The mountain, with its shoulders and peaks, shows out so distinctly and clearly that it completely dominates the landscape. The divide is at an altitude of about 7000 feet and furnishes a typical mountain flora. The spongy ground and stream banks and the mountains to the north, which are easily climbable, present an alpine flora that I hope later to describe in connection with an account of the Simpson Pass. In fact, the whole region is fine camping country. This trip, however, since it is expensive and means camping in the open, may not appeal to many. They may be sure that the easier, shorter trips near Banff will furnish enough botanical booty to prevent all disappointment at not being able to go further afield.

CRAIGMYLE, ALBERTA.

LICHENS OF THE MOUNT MONADNOCK REGION, N. H.—NO. 6

THOMAS DURFEE

Under the direction of Dr. R. Heber Howe, Jr., I am continuing the publication of this list, in which the following genera have already been published by Dr. Howe: *Ramalina*, *Cetraria*, *Evernia*, *Usnea*, *Alectoria*, *Teloschistes*, *Parmelia*, *Physcia*, *Pyxine*, *Baeomyces*, *Stereocaulon*, and *Cladonia*.

Genus: *Gyrophora* Ach.

123. *Gyrophora Dillenii* (Tuck.) Arn. Four specimens; three fertile and one sterile.

124. *Gyrophora Muhlenbergii* Ach. var. *alpina* (Tuck.). Ten specimens; eight fertile and two sterile. Three specimens labeled *pennsylvanica* belong here.

125. *Gyrophora erosa* (Web.) Ach. One specimen, fertile.

126. *Gyrophora hyperborea* (Hoffm.) Ach. Seven specimens, including one from Mt. Carrigan. All these are sterile.

Genus: *Umbilicaria* (Hoffm.) Fw.

127. *Umbilicaria pustulata papulosa* Tuck. Four specimens, all fertile. Two are labeled *pustulata*, one *papulosa*, and one is unlabeled.

CONCORD, MASS.

ODONTOSCHISMA MACOUNII IN ICELAND

A. LEROY ANDREWS

At the time of publication of Evans's paper on this species and its North American allies,¹ it was known from several localities in northern North America, from Greenland, Spitzbergen, and Norway. Since then its range has been

¹ Bot. Gaz., XXXVI, 321ff. 1903; cf. also Bryhn, Bryophyta in itinere polari Norvagorum secundo collecta, 42f. 1906.